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ABSTRACT

Changes in the vocational and technical education (VTE) opportunities available for women in Organisation for Economic Cooperation Development (OECD) member countries in response to changing labor markets and job skill requirements were discussed at a June 1994 meeting of experts. The discussions focused on the following issues: gender differences in pathways in VTE; labor market/skill requirement trends; and developments in VTE structures, their implication, and opportunities for women. VTE policy discussions and activities in OECD countries over the past decades were determined to have been aimed primarily at increasing the participation of girls in technical courses. Although those policies/activities have yielded insight into the barriers that have excluded girls from VTE courses, their impact has remained limited. Although all VTE sectors and courses are "open" to both girls and boys, the following factors have in fact prevented girls and women from participating in VTE: historically constructed images of occupations suitable for each gender, gender-linked expectations and life patterns, actual discrimination, and more subtle exclusion mechanisms in the culture of workplaces and classrooms. The need to conduct VTE policy discussions from a gender perspective was emphasized. (Contains 17 references.) (MN)

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THE CHANGING ROLE OF VOCATIONAL AND TECHNICAL EDUCATION AND TRAINING (VOTEC)

WOMEN IN VOCATIONAL AND TECHNICAL EDUCATION: CHANGES AND CHALLENGES

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Summary

Over the last decades policies on equal opportunities in vocational and technical education and training have mainly aimed at increasing the participation of girls in technical courses. These policies have yielded insight in the complexity of the mechanisms that exclude girls from these courses and the barriers within these courses, but their impact has remained limited. In the OECD VOTEC activity responses of vocational and technical education to changing requirements in the economy were studied. Some of the central concepts that were explored in this activity suggest the importance of exploring a new kind of gender strategies in VOTEC. Especially the concepts of key or core competencies, studies on the dynamic relation between VOTEC and occupational structures, and discussions on the flexibilisation of VOTEC systems, seem to offer opportunities that need to be elaborated. This, however, requires both a reanalysis of these concepts and discussions from a gender perspective, and detailed local analyses using the new concepts in a non gender-biased way.

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Introduction

1. In response to the new requirements and demands for skills and competencies in the labour force, as a result of technological and economic change, vocational and technical education and training are undergoing important changes in many countries. The OECD VOTEC activity was aimed at promoting common reflection among OECD member countries on these changes in VOTEC, addressing the effectiveness and responsiveness of the system, both in terms of the needs of employers and those of young people.

2. While the implications of changing skill requirements for the position of women in the labour market are beginning to be documented (e.g. OECD, 1994), the (required) changes in vocational education and training have hardly been discussed from a gender perspective until now. An expert meeting on 'The new role of vocational and technical education and training; challenges for women' was organized on June 27 and 28 (1994), addressing from a gender perspective some of the issues that are central in the OECD VOTEC activity. Questions concerning the organization of pathways in VOTEC and the strengthening of professionalism, two main issues, may require different answers for young women and young men, or for traditionally female-dominated sectors in VOTEC on the one hand and traditionally male-dominated sectors on the other. Awareness of this is not only relevant from the perspective of equality between the sexes but also from the point of view of the effectiveness of VOTEC systems themselves.

3. This paper is based on the discussions during this meeting. Firstly gender differences in tracks through vocational education and training and the policy responses they have elicited are discussed. Policy responses to these differences have mainly aimed at increasing the participation of girls in technical courses. Some of the concepts that have been developed in the VOTEC activity, however, suggest directions for other possible approaches. These are explored in the next sections. Section 3 deals with changes in the labour market job structures and jobs and discusses some threats and opportunities these may imply for women. Section 4 focuses on current trends in the organization and content of vocational education and training that were discussed in the VOTEC activity. An attempt is made to reformulate some of the issues in a way that makes their relevance from a gender perspective explicit. Finally it is summarized to what extent the results of the VOTEC activity are relevant from a gender perspective and in what way its central concepts need to be reformulated and elaborated to become meaningful in terms of gender analysis and policy.

4. It is of course not possible to make general statements that are equally relevant for all countries and VOTEC-systems. Not only do countries differ considerably in their (vocational) educational systems, but there are also differences in the position of women, for instance their participation rates in different types of education and on the labour market. Moreover, within countries women or girls cannot be considered as a homogeneous group. Social class and ethnic origin, regional origin and age still determine to a large extent the educational and professional opportunities of girls and women. In more detailed and local studies these differences should be taken into account. This paper, which is of a more general and conceptual character, will indicate implications for different groups where possible.

Gender differences in pathways in vocational education and training

5. Examination of the tracks of girls and boys through senior secondary education, shows two main differences. Firstly girls tend to be overrepresented in general education. Secondly there is a segregation within general education - girls choose mainly literature, whereas boys do science[1] - and within vocational education and training - here the division in female-dominated and male-dominated courses is even stronger. The first section focuses on explanations and implications of these forms of segregation. Secondly, the major policy responses are discussed.

General education - vocational education

6. The education level of people has increased dramatically over the last decades, and since the 1960s the rise of female enrolment at all levels of education is even larger than the growth in male participation. In most OECD Member countries the formal qualification levels attained do not longer differ between boys and girls; vertical inequality in education has disappeared. In some countries this implies that considerable differences exist in the education levels between younger and older women.

7. Although the distribution of students across vocational programmes and general/academic programmes varies, a pattern in many countries is that girls tend to stay in general education longer, whereas more boys choose for vocational and technical education (Wilson, 1991). This is usually explained by the anticipation of different life patterns; boys are said to be more aware of the importance of learning a trade because of their orientation on an occupational career, while many girls expect to combine a career with family responsibilities.

8. An attempt to evaluate this situation, should take into account the differences between education systems. In systems where vocational education and training, at least at the initial level, has a low status, staying longer in general education evidently has a different significance for girls (and for students in general) than in systems where vocational education and training is considered as a system which prepares students for entry into employment effectively. However, even in systems where staying in general education is assumed to be equal to 'keeping possibilities open', this does not hold for students, often girls, who do not move on to higher vocational/technical education or university. They run the risk of leaving school 'educated but unskilled', i.e. with general qualifications which are not easily recognized by employers. It can be assumed that girls are overrepresented in this group, as they tend to choose tracks in general education that offer less opportunities for following on in higher education.

9. One of the questions in the VOTEC activity concerns the advantages and disadvantages of the organisation of VOTEC in a separate system versus integration of VOTEC and general education within a single system. From a

gender perspective the main question in this respect seems to be at which moment a choice for one of the systems has to be made and which choices are offered within such a system. Usually, gender differences occur as soon as choice is required. Any form of early streaming, be it into vocational versus general or into tracks within these types of education can be considered disadvantageous for girls. The suggestion to make all secondary education pre-vocational or pre-academic could facilitate non-traditional choices.

Segregation within vocational education and training

10. Girls' participation in vocational education and training usually mirrors the participation of women in the paid work force. Although the degree of segregation may vary between countries, girls are much less likely than boys to be found in the technical sector in vocational education, whereas they are over-represented in courses for social services, health care and administration (OECD, 1986; Wilson, 1991). This also implies that they participate more in the more school-based forms of training.

11. The pace of change in these patterns seems to vary according to the educational level and sector that is concerned. While the number of girls in technical courses at the higher levels of education seems to increase in some countries, the technical industrial trades at the lower level, continue to fail to attract girls. And while in some countries participation of women in traditionally male occupations like medicine and law and in some technician occupations like medical laboratory technicians, architecture and drafting occupations has increased considerably, change is much slower in courses such as mechanical engineering and electrical engineering.

12. Experiences with policy strategies trying to increase the participation of women in traditionally male sectors (see section 2.3) suggest that change is most difficult in types of education with a substantial part of workplace learning. It is not clear whether there is a relationship between types of VOTEC systems and tracks of girls and boys. Traditional forms of apprenticeship and dual courses may reinforce gender segregation, as learning in the context of the workplace may mean learning in the context of gender prejudices. Moreover trainees entering occupational practice at an earlier age may be more vulnerable. The fact that women who succeed in technical jobs often arrive there with a detour is significant. This may be due to the fact that they enter the culture of technical education at an older age, being more defensible against discrimination and less susceptible to prejudices about the incompatibility of female identity and technical work.

13. A more detailed analysis of the length of the courses followed by girls and boys within vocational education and training would be interesting. In some countries girls tend to choose the shorter courses in traditionally female dominated sectors of vocational education and training, but longer 'safer' pathways when they make non-traditional choices, e.g. longer general education before entering technical courses at the intermediate level. In other countries there is a tendency for girls to choose the shorter courses in technical sectors as well.

Policy responses

14. The fact that girls stay longer in general education has not elicited many policy responses, although, as mentioned above, this is not always advantageous. Segregation within general education and vocational education, on the contrary, has prompted governments in most OECD countries to take measures aimed at increasing the participation of girls in science and technical courses, from the end of the seventies on. However, policy initiatives have not always caused intended changes.

15. There are several reasons to problematize gender segregation. Firstly it creates a major labour market rigidity, inhibiting the smooth reallocation of workers from surplus to deficit sectors. Secondly one can assume that capacities of people are insufficiently utilized, when they are channelled into training according to their sex rather than to their capacities. Thirdly, gender segregation is a source of inequalities: most female-dominated jobs are characterised by low-status, poor remuneration and limited potential for skills acquisition, promotion or training (OECD, 1994). Although there are two sides to the problem of segregation - the side of traditionally female-dominated work and the side of traditionally male-dominated work - educational policy has mainly focused on one side of the problem: attempts have been made to increase the participation of girls in science and technical courses.

16. Information campaigns seem to be one of the major policy instruments used, focusing mainly on the traditional attitudes of girls (and their environment). Over the years, however, it has more and more been acknowledged that strategies should not exclusively be aimed at girls, but should also include education and training. It is the educational structures that offer traditional choices, and counsellors with traditional attitudes who encourage them. The term 'choice' suggests an awareness of a variety of possibilities, which often does not exist.

17. A broader approach does not limit itself to the issues of access and choice, but also looks at processes within education and training. It has been demonstrated in several projects that teaching methods and pedagogy often do not take into account the needs of female students or trainees, and that technical training excludes girls by its typically masculine culture. Role models for girls are lacking in the school, as occupational segregation is also expressed in the gender balance of the personnel. Male teachers and fellow students may also have traditional attitudes, sometimes expressed in sexual harassment.

18. In addition to education and the girls themselves, employers play an important role in the underrepresentation of girls in technical jobs: they also make choices based on traditional attitudes and prejudices in the way they select employees. Girls and boys with the same qualifications still find themselves in different situations in the labour market. This seems to be a vicious circle: the existing segregation is not only a result of but also influences girls' expectations about their careers as well as employers' preferences for a certain type of employee. These preferences and expectations in turn reflect cultural stereotypes and the way these are transmitted through socialization.

19. This multiple determination of the gender pattern in technical and technology courses asks for a multiple approach, addressing gender bias in

requirements of entrance, the culture of the workplace and the courses, teaching methods and counselling. However, few projects have focused on the broad range of variables that reinforce traditional gender patterns. Most of the strategies have been one-sided, and many of the measures taken were of a 'soft' character: information campaigns, the development of alternative teaching methods, pilot projects, etc.. Moreover such projects can only succeed when all the relevant actors (educational institutions, employers, unions, governments) are involved. Emancipation policies, however, have usually remained marginal as related to the educational policies, and the results were hardly integrated in regular activities.

20. There are no systematic comparative evaluations of strategies available. Still some strategies seem to be relatively successful, for instance the introduction of women-only groups in the workplace and in courses (both for adult women and in youth education), where girls or women can provide support and reinforcement to each other, and where training can be adjusted to their needs and circumstances(2). In some cases positive action has been successful. The selection of firms that have positive attitudes towards girls entering the workplace, is an important condition for success. An adequate preparation (empowering girls to deal with the difficulties that they may encounter) and guidance at the workplace are additional factors.

21. Other strategies need further elaboration. It is suggested that the Inspection could include in its inspection procedures an examination of equal opportunities: how are institutions taking into account the particular needs of women and to what extent do they demonstrate their competence at increasing the numbers of young women and girls in their institutions?

22. Also more knowledge is required about processes of gender typing of occupations and about learning processes. How are the gender labels of new occupations constructed? How can the images of masculine and feminine occupations be changed? How are gender-specific orientations developed? How can teaching be adapted to the needs of girls(3)? We also may learn from experiences of women in continuing education who succeed in technical training where younger girls do not. Why is it that the entrance in technical education and jobs seems to be less problematic at an older age?

23. When the wish for mixity, the notion that sex should not determine life and career patterns, as such is the rationale behind the wish to increase girls' participation in technical training, all levels and sectors of technical training are relevant targets for policy. From the point of view of employment opportunities, however, one can distinguish between sectors and trades of different relevance. From this point of view there is no point, for instance, in encouraging women into training for traditional industrial trades with limited labour market opportunities. Courses in the industrial sector that fail to attract girls, are sometimes not very attractive for boys either, as they train for trades where employment is decreasing.

24. The major growth of employment over the last years has been in the service sector, the sector where girls traditionally are well-represented. From this perspective it might be said that the so-called 'traditional' choices of girls(4) are actually 'realist'. Besides the 'correctness' of these choices in

terms of employment, they may be acting on an accurate appraisal of their best chances of being able to combine their activity in the public sphere with future responsibilities in the private sphere.

25. The fact that the orientation of girls is not necessarily disadvantageous in employment terms does of course not mean that we should accept that differences are constructed in a discriminatory way. Moreover, the traditionally female-dominated sectors are not without problems either. One of these problems is that the range of programmes in which girls are to be found is restricted. Another problem is the low status, low remuneration, poor conditions and few career opportunities in many jobs in health care, social services, textiles, sales, administration and clerical work.

26. It is striking that policy measures and analyses of gender inequality in VOTEC have hardly paid attention to these sectors. There is a tendency of confining definitions of 'the gender issue' in VOTEC to the problem of under-representation of girls in technical courses. The position of girls in traditionally female-dominated sectors, however, represent a distinct and important issue from a gender perspective. Of course, education and training cannot change the low status and often negative image of much work done by women in the health care and social services sector. It can, however, contribute to improving the professional value of the current tracks of girls in VOTEC, a strategy which has received much less attention in policy. Current developments in vocational education and training, however, might offer opportunities for elaborating new strategies. These will be discussed in the next sections.

Trends in the labour market and in skills requirements

27. Gender issues in vocational education and training cannot be discussed without looking at changes in occupations and on the labour market. New technologies, changing demand, innovative methods of production and work organisation, and modern decision-making structures all contribute to the redefinition of jobs and new occupational composition of employment. In many cases occupational definitions and classifications are being revised. In discussions on occupational segregation the opportunities this offers to dismantle current gender-based occupational segregation has been recognized (OECD, 1994). The redefinition of skills and the relative value of different types of skills has been used in attempts to upgrade women's work.

28. The OECD VOTEC activity has focused on the implication of the developments mentioned above for VOTEC in a largely gender-neutral way (Lütz, 1994; Pair, 1994). It may be obvious, however, that there is a gender dimension to changes in VOTEC as well. In this section the question is asked to what extent and in what way two issues in VOTEC - changing skill requirements and the role of education and training in the development of occupational structures - may have a different significance for women and men, and for traditionally female-dominated and traditionally male dominated sectors. Firstly changing employment patterns will be discussed. The second section deals with the changes in skills that are called for by changes in occupational practices and occupational structures. To what extent and in what way are they gendered? In the last two sections it is discussed how these changes can

contribute to the objectives of opening up traditionally male-dominated sectors on the one hand and of valorization of professions where a majority of women is employed on the other.

Employment: growth of the tertiary sector

29. Female participation in the labour market has increased rapidly over the last years. The ageing of populations, and the fact that many countries are facing shortages in skills, fewer school-leavers and increased international competition, means that women are in increasing demand in the labour market. The service sector has been the major contributor to employment growth in OECD countries over the past 25 years (OECD, 1994), helping the increase of the employment of women. Especially occupations in the personal and social service will continue to be growing employment sectors.

30. At the same time, however, economic recession and consequent reduction in public sector expenditure is resulting in a rise of unemployment. This affects women, and mainly older women with limited basic education and few transferable skills, employed as unskilled workers, disproportionally. A risk of polarization has been pointed out, resulting from the fact that growth and loss of employment affects different groups of women in different ways: there are new possibilities for highly educated women, but jobs are lost for women who have no specialized education. Especially there is a dramatic unemployment among girls who do not obtain a qualification at senior secondary level; they run an increasing risk of marginalisation.

31. There are also reasons to remain alert to processes within the service sector. In the first place, as indicated above, the quality of many jobs in the service sector is poor. It often concerns 'hire and fire' jobs with low wages, lacking insurances and career opportunities. Secondly, new employment opportunities also mean new opportunities for gender differentiation. The tourism sector is a case in point. Women are well-represented in this fast growing and professionalising sector, but the jobs in which women become successful seem to be restricted, and they do not easily enter the higher positions. Education and training play a role in this process. When the required competencies for certain jobs are not (yet) well-defined, opportunities for gender-bias (and bias against vulnerable groups in general) are present. Competencies can easily be defined in terms of personality traits (e.g. being adventurous), which are recognized in men, but not in women. Although gender-bias can occur in the process of definition of competencies as well, the risk of non- recognition od competences of women is smaller when it is clear what the required competencies are, where they can be acquired and when a person has acquired them.

New skills: valorization of 'feminine' qualities?

32. The most obvious change in workplaces is a move away from specialised jobs and separate functions towards more broadly-defined work roles and organisational structures that provide shared responsibility for planning and decision making. Greater value is being placed on factors such as creativity, initiative, being entrepreneurial and being able to think critically about how to improve work practices. Moreover, narrow vocational skills are increasingly

quickly outdated. A different but related change are the fast technological changes, leading to the introduction of new technologies in many occupations. These developments imply that young people should not enter the labour market with too narrow or specialised skills, and should acquire in vocational education and training a base for further learning. They have to be prepared to cope with rapid future changes in the demand for skills through the acquisition of transferable and metacognitive skills (Lütz, 1994).

33. These changes and new requirements, offer opportunities for gender strategies at several levels, as they may not have the same meaning and impact in all occupational and training sectors. Firstly, new requirements in occupational practice seem to imply possibilities of acknowledging the importance and relevance of skills that have usually been seen as 'feminine' qualities[5], and may thus offer opportunities for women on the labour market. Secondly, they can contribute to the blurring of boundaries between gender-linked courses and occupations: similar skills are becoming important in different sectors. This could facilitate the entrance of women and girls in technical occupations (see 3.3). And thirdly the shift in occupations across all sectors from solely dealing with 'things' to dealing with people and information means that skills and competencies that are now being seen as exclusively relevant for caring professions and service become relevant for other occupations too. This might in the long term contribute in improving the status of non-technical occupations (see 3.4).

34. We should not assume, however, that these new skills will be recognized in women as a matter of fact. There even is a risk that new gendered qualifications are being introduced. Some of the new skills that are in demand are traditionally associated more with men than with women and thus run the risk of being recognized in men easier than in women, for example: showing initiative, creativity, taking responsibility and learning adaptability. Also we should be alert that in new ways of assessment of such skills no new forms of gender-bias are introduced.

35. More clarity is needed on what we are talking about exactly when 'new skills or competencies' are mentioned in relation to gender-issues. Sometimes this concept seems to refer to instrumental skills or a more general kind of competencies that traditionally have been associated with femininity, sometimes the discussion concerns a quality, e.g. transferability, of competencies, in which a gender difference is not evident.

Changes in technical/technological jobs

36. The shift in occupational practice from solely dealing with 'things' to dealing with people and information, implies that courses on technic will have to focus more on the acquisition of social-communicative competence and information processing skills. This may facilitate the entrance of women and girls in technical occupations, both because employers may be more willing to employ women, and because non-traditional trades may become more attractive for girls. This requires, however, that these new competencies are explicitly integrated in required job competencies and in educational profiles and qualifications.

37. Although there is a beginning awareness in technical sectors that another type of skills is becoming increasingly relevant, traditionally male occupations tend to preserve their identity through emphasizing the technical/instrumental aspect of qualification profiles. Analyses of these processes could provide insight in the impediments and the problems for female employees and students. It has been demonstrated in historical analyses that gender plays an important role in processes of professionalisation and hedging of occupations (Cockburn, 1983; Wajcman, 1991). The role of education in defining gendered professions and the competencies needed has seldom been taken into account, however. This is an important topic for future research.

38. Also the introduction of new technologies can contribute to the opening up of professions for women. The use of new technologies often means that it is no longer justified to exclude women from a certain trade because of the 'heaviness' of the work. Changes in the technology of printing for example have given women the opportunities to enter a sector that was traditionally male (Cockburn, 1993). Research has also showed, however, that this did not give women the status of worker in this sector.

39. Finally, employment opportunities occurring in new industries (telematic, communications) are moving away from what we consider to be the traditional industrial trades. Here the question is how developing jobs can be defined or redefined in a gender-neutral way, so that they will be attractive for girls. This also requires that the competencies and characteristics of people who will succeed in those industries are not defined in gendered way. More insight is needed in processes of gender typing of new areas of occupational activity. Why and how, for instance, has information technology become a 'masculine' field so fast?

Changes in traditionally female jobs

40. For jobs in the service sector the changing skill requirements have a different meaning than for technical jobs. The main problem in these areas from a gender perspective is the non-recognition of the skills that are needed to perform these jobs. The competencies needed for work in the service sector have traditionally been ill-defined. This may have several reasons.

41. Research into job evaluation techniques had demonstrated that these techniques tend to be gender-biased; they value manual and technical skills, typically held by men, more than organisational and social skills, often held by women (Popock, 1988). Many of the skills required in female occupations - the so-called 'tacit' skills - are therefore not reflected in current occupational definitions or job descriptions. Firstly, they tend to be ignored, because they are seen as 'natural' female competencies, or because they mirror domestic tasks that women perform out of the workplace for free. Secondly, some of these skills may be undervalued because they do not reflect formal training. Also it may be difficult to measure their attainment. Skills can be defined in terms of the amount of time it takes an average person to master the responsibilities of a particular job. The evaluation of service 'skills', where quality is an important factor, is difficult with traditional quantitative product-oriented measures (OECD, 1994). And finally power relations in defining what 'skill' is, are involved: the combined power of unions, employers and government, where women as a group lack strategic influence.

42. To some extent the fact that women appear to be concentrated in a narrow range of occupations is produced by the same fact: the definitions of those occupations are little specific. Within a single classification a broad range of skills is comprised. For example 'secretary' covers a multiplicity of different tasks, functions and levels of seniority; their remuneration often does not depend on their qualification but on the sector where they work. Renewed descriptions of jobs have been used as a means for upgrading traditionally feminine occupations, in particular for arguing against unequal pay for work of comparable value done predominantly by men or by women (Acker, 1989). An initiative of the unions in the service sector in The Netherlands has recently resulted in a differentiation within the job of secretary in a number of levels.

43. At the moment the discussion on upgrading of women's work focuses on the job descriptions rather than on the qualifications. As there is a strong relationship between job descriptions and qualifications, strategies in education aimed at redescribing competencies and expertise may also be possible. Some 'tacit' skills, for instance, seem to be related to the 'new skills' that are in demand on the labour market, thus offering opportunities to be integrated in new educational profiles and curricula.

44. Another strategy for upgrading traditionally female-dominated occupations does not focus on making explicit 'tacit' skills, but on new instrumental skills. While some technical trades and professions in industry can be said to have entered a process of 'tertiarising', the service sector is 'technologizing'. The introduction of new technologies has significantly increased or modified the skills requirement of many female occupations (medical technologies for nurses, information technology for secretaries). Another development is the increasing importance of management in social services and health care. The need to adapt to changing technologies and work processes offers opportunities for upgrading traditional female occupations, involving revaluing and enriching the skills content of those occupations and enhancing both their status and internal and external mobility. The evolving complexity of jobs like nursing, teaching and secretarial work, however, has until now not often been reflected in reworking of job classifications, career ladders or salary scales.

45. An upgrade of jobs where women are overrepresented may also influence the gender-balance in a sector in a way that is disadvantageous for women. When the status of occupations increases this often means that more men are attracted to the sector, who soon occupy the higher positions. Recent experiences in for instance institutions for care have also showed that a disproportionate number of men entered the new management positions - the 'crown prince'-effect - often without experience in the practice of caring. Also a stronger emphasis in courses on administration, service and care on the acquisition of management skills and technical skills might have the effect of attracting men and 'scaring off' women.

46. The situation in administration and trade is different from the care sector. Firstly the gender distribution in this sector is not as lop-sided as in social services and health care. Secondly, different mechanisms for upgrading are required. In administration and trade it has proved even more difficult to define the skills needed for the work than in social services and health care, where specific technical/instrumental and interpersonal skills

could be claimed. The boundaries of occupations in this sector are ill-defined, and employers have often favoured applicants with general education qualifications instead of students with diploma's from administrative/trade courses. A question for vocational education and training is: how is occupational expertise and mastery actually definable in the jobs in this sector?

47. Educational mechanisms can be part of the explanation of the ill-defined character of much work done in the service-sector. As mentioned above, some of the skills needed in traditionally female jobs may be undervalued because they do not reflect formal training and because it is difficult to measure their attainment. An aspect of the lack of valorization and recognition in employment of the qualifications that girls acquire in the service sector of the educational system may be the fact that education in this sector is mainly provided in schools, and the employers were not involved in defining them.

48. Education and training can contribute to the professional value of courses in the service sector, when changing definitions of the competencies needed for this work leads to a revision of qualification profiles and of the curricula of the courses preparing for it. However, for this to be achieved it is necessary that these new competencies are explicitly integrated in required job competencies and in educational profiles and qualifications. The importance of broad skills has already been recognised in training for some traditionally female-dominated professions early on. This, however, has not always increased their status. Recognitions by employers is important.

49. Education does not only react to changes in job structures and in jobs, it can also give direction to new occupations and the integration of occupational structures (see De Bruijn & Nieuwenhuis, 1994). The VOTEC activity has also showed that professional education and training can be seen as an instrument to define and hedge occupational domains. The existence of an own sectoral training system, for instance, is a 'weapon in the struggle for sectoral recognition and shielding of economic markets (De Bruijn & Nieuwenhuis, 1994). It has been pointed out that also traditionally female-dominated occupations are involved in such processes. E.g. as they have become more professionalised the nursing profession has become more concerned with the preoccupation of demarcation, for instance between nurses and social workers, and with the creation of nursing assistants and nursing aids at the technician, paraprofessional or apprenticeship level. While this contains the risk if rigidity and stagnation, it may be argued that a profession has to assume these characteristics first to be able to develop an identity, or even for its survival.

50. The increasing importance of technological, efficiency operations and information processes in caring and service professions has implications that are contrary to rigidity: this might lead to the introduction of elements in the training for these professions which are also needed in other jobs and courses, thus increasing opportunities for horizontal mobility. Job evaluations based on methods for identifying the full range of competencies actually required to perform a job, demonstrate that many of the skills involved in 'female' occupations are also applicable to other occupations. This would make it possible to include female occupations in 'dynamic' occupational classifications allowing for a high degree of mobility.

Developments in vocational education and training structures and their implication and opportunities for women

51. In section 3 changes in the economy and their possible consequences for male-dominated and female-dominated occupations and courses were discussed. The role of education was only briefly mentioned. This section discusses some of these issues, taking education and training as its starting point. It focuses on current trends in the organization and content of vocational education and training that were discussed in the VOTEC activity. These trends do not only concern responses to the changes in the labour market mentioned above, but also more or less autonomous developments in education and training, that may have differential effects for women and men.

52. Firstly the notion of 'key competencies' is discussed, and the question how 'general' vocational education should be. The second section deals with different patterns of organising programmes in VOTEC: modular forms versus predetermined complete sequences. Closely linked with this are forms of certification and assessment. In the third section implications for women of new forms of certification and assessment are dealt with. As these issues can only analytically be separated, links between them will be indicated where possible.

The formulation of key competencies

53. The transformation of occupations that was discussed in section 3 is stull going on. In several occupational sectors it is not even clear what the required changes are. It is not surprising that consequences for education are only beginning to be formulated (Pair, 1994). In some countries the developments described in the previous section, and especially the growing need to increase the transferable skill level of the working population, have resulted in the formulation of a set of competencies that all young people are supposed to learn in their preparation for employment, regardless of the education or training path they follow: key competencies, core skills, essential skills etc.. These competencies concern areas as communication, information, planning and organisation, working with others, problem solving, using technology. As opposed to technical instrumental skills they are not exclusive for a sector; they are required everywhere. However, as already briefly mentioned in section 3, it is not always clear to what extent the discussion of key competencies concerns new (instrumental) skills or a quality of skills.

54. It is sometimes assumed that these new skills show similarities with what has traditionally been seen as 'feminine qualities': cooperation, responsibility. However, we should not too easily assume this. Although some of these skills may be skills that women typically acquire through experience in family management (e.g. skills related with dealing with people), there is no obvious gender connotation to 'metacognitive', 'potential', 'generic' or 'learning to learn' skills, or to a quality like transferability of skills. One could even suspect that these skills offer a lot of new opportunities for gender stereotypes about which competencies students have acquired. More interesting and useful than just assuming that key competencies are typically feminine qualities, is posing the question how women can benefit from this development.

55. Firstly, as already discussed in section 3, this development can be perceived as significant for girls and women, because some of the skills involved are important in a lot of work done by women (the tacit skills), both paid and unpaid. From this perspective there is a strong link between the notion of key competencies and the recognition of acquirements. It was already argued that skills that women have developed - management skills such as prioritising tasks, delegation, time management, multi-tasking, planning etc. - are often perceived as 'natural attributes' both by employers and women, and are not acknowledged or recognised. This lack of skill recognition for women has a strong impact on gender segregation, career path advancement and income. For women wanting to reenter the labour market an important aspect is that it is acknowledged that these skills can also be acquired outside the formal education system, for instance in the family. This can make the shift from family to work easier, and it can lead to an upgrade in the salary system.

56. Secondly, the increasing importance of these competencies and skills may contribute to the blurring of the boundaries between traditionally gender-linked programmes in vocational education and in occupations. This can only be realized when these competencies are explicitly integrated in educational profiles and qualifications, and in the curriculum.

57. Finally, it can be advantageous for girls and women (and other vulnerable groups) that with the recognition of these competencies as something to be learned, they can no longer be taken as a quality some persons have and others do not have, as a kind of traits of personality; their acquisition can be proved by a certificate.

58. Besides possible benefits for women, some elements in the discussion on key competencies can be pointed out that need more reflection from a gender perspective. The idea that the skills and competencies needed in the future will no longer be definable in terms of distinct occupations, but that jobs will rather require a broad transversal and transferable sort of skills, seems to suggest that the 'general' base of vocational education needs to be improved. Initial education should aim to provide general rather than specific skills, at least up to a certain level. However, the idea that programmes to prepare individuals for work should emphasize general skills rather than training for a specific occupation, has also raised new questions. For instance: is it possible to identify competencies in general terms, i.e. competencies that are independent of the specific tasks (expert) workers have to perform, and to identify how such competencies are acquired (De Bruijn & Howieson, 1994).

59. It is generally acknowledged that key competencies only get significance when they are related to a specific task, without which they cannot even exist. 'Transferable or general skills' can not simply be added as loose elements to technical/instrumental skills. This argument returns in discussions that are concerned with the curricular innovations that are required to produce the desired competencies: how can they be taught and learned? It is agreed that key competencies cannot be taught by just adding new elements or modules to already existing curricula, as they cannot be learned in an abstract way; they can only be learned in practice. Ways of teaching these competencies, however, still have to be further developed. Modes of role play and exposure to work places are being suggested, but at the same time using the general education context to allow students to reflect and discuss on their observations and experiences,

is considered important. Also, based on the work of cognitive psychologists (e.g. Brown, Collins, Duguid, 1989; Raizen, 1989), it is argued that learning should be 'situated', i.e. take place in authentic situations. Again we should not just assume that new insights on teaching and learning will automatically be beneficial for girls. Although learning with a focus on real-life situations and practical problems is often said to fit the learning styles of girls, this also requires additional efforts. Learning in 'meaningful contexts' introduces new gender questions, as what is meaningful for boys may not always be meaningful for girls. This is an issue that clearly requires more discussion and research.

60. The need for functionally flexible workers with skills that can be applied across industries rather than those that are firm- or even industry-specific, is also responded to by measures concerning the structure of education and training. In vocational education and training in countries with well-established frameworks and programmes for vocational education and training, a response has been the melting together of traditional, often narrow, occupations and programmes into broader occupational 'fields' or 'families', at least for the initial stage of vocational education and training, with preparation for more specific expertise following at a later stage of the training process (Durand-Drouhin, 1993). It is obvious that a system with programmes in initial post-compulsory education which are less determined by a sole occupation and which is thus less segregated will facilitate non-traditional choices. Also attempts are being made in most OECD countries to remove the traditional barriers that exist between vocational and general education. Besides adapting pathways to the context of job diversity and instability, this might reduce the negative effects of breaks in individual pathways (Durand-Drouhin, 1993). It might also make VOTEC, specially non-traditional courses more attractive.

Options versus fixed pathways

61. A recent development in many VOTEC-systems is the organisation of programmes in modules. The objectives for modularisation are on the one hand to increase the responsiveness of VOTEC systems to changing skills needs, and on the other hand to provide individualised training routes based on the interests, needs and circumstances of students, often with a focus on disadvantaged students (Raffe, 1992). In well-established VOTEC-systems, traditionally after the choice of an occupational area, young people were provided with clearly designed programmes. A modular approach emphasises individual choice and flexibility and leaves young people relatively free to compose their own menu and pathways and profile of qualification.

62. Modularisation of VOTEC typically bears both advantages and possible risks, when it is considered from a gender perspective. From the point of view that choice always carries a certain risk for girls and other vulnerable groups, a more consolidated set of offerings may be more advantageous from a gender perspective. Girls tend to underestimate their possibilities and to be underestimated by teachers and counsellors, resulting in educational careers with less possibilities. The opportunity to drop out of education for a while and return later, may encourage young people not to acquire complete initial qualifications at an age where this is most appropriate. This risk has been

pointed out for young people in general (Durand-Drouhin, 1993) but the risk of finally not returning in education may be more serious for girls than for boys, because they can be expected to take on family responsibilities.

63. However, the flexibility in the timing of skills development which a modular system offers, and which implies risks for girls, has clear advantages for women who return in education after a period of bringing up children. If the system offers possibilities to have their prior professional experience and experience in the home recognized, they may be able to avoid to have to go through a complete programme. This offers an easier access back into education and the labour market. This can only function, however, when initial education and adult education are part of the same system. This requires an overall but flexible framework, in which structures of assessment and certification are positioned; modularly acquired credits and credits in otherwise organised programmes should belong to one qualification system.

64. An additional advantage of a more flexible education system, is that it might facilitate the diversification of choices of girls and women. Imposed structures support occupational sectors to remain relatively closed, whereas modularisation offers possibilities for horizontal transfer, and a less exclusive determination of courses and programmes by a sole occupation. Examples are: the introduction of core science modules or business modules (for setting up an own business) in a hairdressing courses which can be used to build into other programmes. The question seems to be how to avoid that girls (and boys) do not get complete and meaningful qualifications, while still offering the advantages of the flexibility described above. Moreover the fact that there are risks to modularisation is a different issue than the pedagogical merits and opportunities it may offer. Also a distinction should be made between a modular system, introduced as a normal way to acquire initial vocational qualifications, and in adult education.

65. A number of conditions seem to be important. First of all a system should not be flexible in the sense of fragmentation and should not encourage young people to acquire only partial initial qualification rather than complete initial vocational qualifications. Any choice should lead to competence and qualification profiles which carry an agreed and recognized value in the labour market. Secondly the success for girls of a diversified system also depends on the intensity and quality of counselling and orientation activities. It will be important to monitor the outcomes of ongoing processes of modularisation of modular systems from this perspective.

66. Finally, the question of the acknowledgment of traditionally 'feminine' skills is relevant in view of processes of modularisation. Modularisation is usually based on the analysis of occupational practice, which may cause a too narrow focus on 'visible' skills. The fact that female-dominated occupations, especially in care, tend to be seen as requiring specific technical skills to a lesser degree than technical occupations, may easily be reflected in competency-based systems. When national competency standards were developed in Australia, guidelines were developed for avoiding gender-bias (NTB, 1991). These include a.o. suggestions concerning gender-biased language (e.g. the language used to describe a competency should not be influenced by the gender of the employee involved in the activity), and suggestions for ways to avoid methods of analysis that discriminate against women in the workforce (e.g. the instruments used to collect and analyze information about competencies should

be likely to result in the identification of the full range of competencies in a job, including those competencies which are often overlooked and which are particularly significant to women's employment). Also suggestions are made for ways to avoid overlooking some competencies and overemphasizing others competencies. Skills are distinguished under three main headings: technical skills, organising and co-ordinating skills and communication and interpersonal skills. The technical skills do not only concern machine or equipment-related competencies (to type or to operate a press) but also caring skills and manual dexterity skills.

Qualification, certification and recognition of prior learning

67. The changes discussed in the previous section have clear implications for systems of certification, and recognition of competencies, and vice versa: new systems of qualifications have an impact on the organisation of programmes and pathways through these programmes. Several aspects are of particular importance for women here: the organisation of educational and career ladders, opportunities for upskilling, the question of whether and how prior experience is recognized and gender-bias in ways of assessing.

68. The issue of educational ladders - with a structure of qualifications which provides access routes to higher education - and occupational ladders for occupational progression is particularly important for women. Women very often work in occupational dead-ends as assistants, clerks, secretaries, etc. Occupational ladders offer dental assistant or mechanic opportunities to become dentists, legal and accounting clerks get the opportunity to become lawyers and accountants, and secretaries can become managers. This would open up many career possibilities for women. In an ideally flexible system qualifications and modules for various occupations are vertically and horizontally related.

69. A general skills upgrading of the adult labour force is part of the process of modernisation being undertaken in OECD economies (OECD, 1994). In order for women to keep or obtain equally worthwhile work, perspectives and wages as men, it is important to they will be enabled to take advantage of further education and training programmes for re-skilling and up-skilling. This training should be adjusted to their specific needs and circumstances, such as training hours that fit their family responsibilities. Social partners and education authorities have to be involved in developing special courses for women and have to validate the certificates and diploma's towards national standards.

70. In several countries vocational examinations are being established allowing people to have the skills recognized which they have gained on the job instead of through formal vocational education. As mentioned in the previous section, the crediting of prior learning and experience, also outside education or occupational practice is particularly relevant for women, and especially for women re-entering the labour market after a period of caring for children. Women's skills are often acquired informally through unpaid work and voluntary work, and may not be valued or recognised for the purposes of career advancement and training (see e.g. Recognition of Prior Learning: implications for women, 1992).

71. Systems of recognition of prior learning are important for women, but there are certain conditions. Firstly it should be assured that examinations are also developed for traditionally feminine occupations. As discussed earlier in this paper the recognition of skills acquired on the job has a gender aspect. 'Skill' is a gendered phenomenon, defined in such a way that it involves a bias towards traditionally male occupations and against traditionally female employment fields (Popock, 1988). Secondly, also prior experience acquired outside jobs or education should be acknowledged. It is in the interest of women that a broad interpretation of competence is used when new systems of recognition of competencies are introduced, including all capacities (skills and knowledge) proved in professional or social life, regardless of where these have been obtained.

72. A final question concerns the way in which 'prior learning' is assessed. The need for a more 'generic' kind of skills as was discussed in section 4.1 implies that new methods have to be developed for assessing these kind of skills. From a gender perspective this is relevant because it may move assessment and tests away from solely focusing on specific, direct observable technical skills and from traditional modes of assessment that are not related to the context i.e. occupational practice. It may give room to recognition of non-technical skills and to assessing competence to operate in professional task situations.

Conclusion

73. The discussion on VOTEC in many countries and also in the OECD VOTEC activity has been largely gender-neutral, partly as a result of the lack of a fruitful discussion between the sectors of equal opportunities and of vocational education and training. This shows in reports and documents that are produced at various levels. While a lot of emancipation expertise has been acquired in special projects and while gender analyses have showed the genderedness of basic concepts in VOTEC like 'skill' and 'competency', developments in VOTEC are still being discussed without taking a gender perspective into account. Integration of such insights in general discussions and policies can only succeed when actors at the government level, in education, the labour world, and emancipation work together[6]. In developing gender policies, we should keep in mind, however, that there are no policies that will give results for all women.

74. In this paper it was argued that both the notion of 'open pathways in VOTEC' and of 'new skill requirements and professionalism' have a gender-dimension.

75. As to open pathways: although formally all sectors and courses are 'open' to both girls and boys, this is not always experienced as such. This is caused by historically constructed images of typically male and female work, by gender-linked expectations and life patterns, by actual discrimination and by more subtle exclusion mechanisms in the culture of workplaces and courses, in teaching methods etc. Pathways in continuing educations, necessary for making a career and even for remaining 'skilled', are not always open for women because existing training provisions do not fit their needs, i.e. cannot be combined with family responsibilities. Discussions during the VOTEC seminar on gender

indicated that strategies to tackle this situation require a multiple approach, in which a broad range of actors is involved, and should focus on those sectors that are most relevant in terms of employment.

76. The discussion on new skill requirements has until now not been conducted from a gender perspective. However, there seem to be possibilities to enrich analyses of new skill requirements and of the development of occupational structures with a gender dimension. Recent developments on the labour market and in VOTEC have different implications for traditionally female-dominated and male-dominated sectors. When developing more complex notions of skill and competency, the historical differences in the valorisation of 'feminine' and 'masculine' skills should not be forgotten. Recent trends in VOTEC also offer possibilities to extend the repertoire of equal opportunities strategies, which have until now often focused too narrowly on increasing the participation of girls in technical courses. They suggest ways of breaking through traditional gender-boundaries and for strengthening the professional and career value of courses where girls are overrepresented.

77. It is clear, however, that this will not happen as a matter of fact, as is demonstrated by the fact that discussion of these issues has until now remained largely gender-neutral. It asks for continuous awareness of the fact that skills, competencies and professions are gendered and remain susceptible to processes of 'gendering'. A deeper insight in these mechanisms and processes can only be produced through detailed and local studies focusing on specific sectors in the labour market and in VOTEC in different countries.

Endnotes

1. The gender distribution of students within general/academic education will be left out of consideration in this paper.

2. We should be alert however that special courses for women and girls are not a "watered-down" version of formal (initial) courses, or are perceived as such. If they lead to specific diplomas, the risk is evident that these diplomas will have less status than the official ones, which are mostly acquired by men.

3. Sometimes the entrance of girls in non-traditional areas has also provoked questioning of how teaching and learning of all students takes place.

4. It is conspicuous that boys' gender-linked choices are hardly ever called 'traditional.'

5. 'Masculine' and 'feminine' do not refer to different traits of women and men in an essentialist way here, but to social constructions: characteristics that are socially attributed to women and men.

6. A question for the near future is what the effect of decentralisation of decision making in education will be. When governments are no longer responsible for equal opportunities, the question is whether lower authorities will take over this responsibility.

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